



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,973	07/09/2003	Kenneth S. Wales	END895-0511038	1299

7590 11/29/2005
FROST BROWN TODD LLC
2200 PNC Center
201 E. Fifth Street
Cincinnati, OH 45202-4182

EXAMINER

DURAND, PAUL R

ART UNIT	PAPER NUMBER
----------	--------------

3721

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/615,973	Applicant(s) WALES ET AL.	
	Examiner Paul Durand	Art Unit 3721	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on the RCE filed 11/1/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7,8,12,13 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,8,12,13 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/29/2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/1/2005 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-5,7,8,12,13 and 15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The examiner cannot find any support in the specification or inference from the drawings to ascertain the exact definition or the scope of the limitation "coaxially". It is not clear to the examiner what the end effector is rotating coaxially with.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3,5,8,12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Green (US 5,312,023) in view of Bolanos et al (US 5,575,799).

In regard to claim 1, Green discloses the invention substantially as claimed including a surgical instrument comprised of a frame 52 with a handle portion attached shaft in the form of elongated portion 54, with a longitudinal axis, and providing actuating and articulating motion, firing member 96 supported in the frame, means for rotation and actuation, end effector 58, with a longitudinal axis running through it, distally and pivotally attached to the frame for articulation and responsive to actuation and an planetary gear train articulation mechanism 792 and 798, where the longitudinal axis of the end effector and the shaft remain co-planar during articulation (see Figs. 52-54, 63, 64 and C20,L51 – C24,L48). What Green does not disclose is the use of a spur gear and a mating gear section to articulate the end effector. However, Bolanos teaches that it is old and well known in the art of surgical tools to provide a shaft 103, with an articulation drive tube 40, and an articulation mechanism comprised of gear with teeth 41, coaxially engaging teeth 34 of a bevel gear mounted on the end effector 105, and aligned in an arc and equidistant from the pivotal axis of the end effector for the purpose of articulating a surgical tool (see Figs. 2,3 and C4,L24-57). Furthermore,

while Bolanos teaches the use and layout of the gears which are reversed from the applicant's invention, it has been held that mere reversal of parts of the working device of an invention requires only routine skill in the art. *In re Einstein*, 8 USPQ 167.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the invention of Green with the alternative means of articulation as taught by Bolanos for the purpose of articulating a surgical tool.

In regard to claim 2, Green discloses the invention substantially as claimed including a stapling and severing mechanism comprised of cam bars 286, 290 and knife 240, operated from the handle portion (see Figs 20, 21 and C11,L6-67).

In regard to claims 3 and 5, Green discloses the invention substantially as claimed including a closure in the form of anvil 715, coupled to end effector 706, firing bar 732, supported by support 730, articulation drive tube 710 and pivoting means comprised of planetary gear set 781, for converting rotational motion to articulating motion (see Figs. 52-54, 63, 64 and C20,L51 – C24,L48).

In regard to claims 8, Green discloses the invention as claimed including a planetary gear set combination to articulate the end effector (see Figs. 52-54, 63, 64 and C20,L51 – C24,L48). What Green does not disclose is the use of a spur gear and bevel gear combination to articulate the end effector. However, Bolanos teaches that it is old and well known in the art of surgical tools to provide a shaft 103, with an articulation drive tube 40, and an articulation mechanism comprised of spur gear with teeth 41, engaging teeth 34 of the end effector 105 for the purpose of articulating a

surgical tool (see Figs. 2,3 and C4,L24-57).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the invention of Green with the alternative means of articulation as taught by Bolanos for the purpose of articulating a surgical tool.

In regards to claim 12, Green discloses the invention as claimed including handle portion 52, with means for rotation and actuation, a shaft in the form of elongated portion 54, with a longitudinal axis, acting as a frame and articulation drive tube, end effector 58, with a longitudinal axis running through the effector and pivoting means comprised of planetary gear set 781, for converting rotational motion to articulating motion, where the longitudinal axis of the end effector and the shaft remain co-planar during articulation (see Figs. 52-54, 63, 64 and C20,L51 – C24,L48). What Green does not disclose is the use of a spur gear and bevel gear combination to articulate the end effector. However, Bolanos teaches that it is old and well known in the art of surgical tools to provide a shaft 103, with an articulation drive tube 40, and an articulation mechanism comprised of spur gear with teeth 41, coaxially engaging teeth 34 of the end effector 105 for the purpose of articulating a surgical tool (see Figs. 2,3 and C4,L24-57).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the invention of Green with the alternative means of articulation as taught by Bolanos for the purpose of articulating a surgical tool.

In regard to claim 15, the modified invention of Green discloses the use of a spur

gear with straight teeth 41. What the modified invention of Green does not specifically disclose is the use of a beveled spur gear. However, the examiner takes Official Notice that it would have been a matter of design choice to provide a beveled spur gear in lieu of a straight-toothed spur gear for the purpose of articulating a tool.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the invention of Green with the alternative bevel gear arrangement for the purpose of articulating a tool.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Green and Bolanos in further view of McGarry et al (US 5,289,963).

The modified invention of Green discloses the invention as claimed as applied to claims 1-3 above, except for the use of projected posts to join the end effector with the tool. However, McGarry teaches that it is old and well known in the art of surgical tools to provide tabs (no number given, but next to reference number 89 in figure 15) mounted on end effector 16a and tabs (no number given, but next to reference number 76 in figure 15) mounted on a tool side 14 for the purpose of joining an end effector to a tool (see Fig. 15).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the modified invention of Green with the mounting means as taught by McGarry for the purpose of joining an end effector to a tool.

Allowable Subject Matter

7. Claims 7 and 13 would be allowable if rewritten or amended to overcome the

rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Response to Arguments

8. Claims 7 and 13 have overcome the 112, 2nd paragraph rejection. However, the claims are rejected under 112, 1st paragraph for new matter in the form of “coaxially”. It is not clear from the specification of the drawings, what this term encompasses and what the relation is to the tool. Furthermore, while the examiner, used “coaxial” to describe the apparent plane of movement of articulation in the Office Action mailed 8/22/2005, the examiner asserts that term “coaxial” was merely used by the examiner to convey to the applicant the articulation movement as the examiner has seen it. It was not meant to convey to applicant a limitation, which would define the invention over the prior art. Any limitation should have support in the specification or the drawings. If applicant asserts that there is support in the specification or the drawings for this limitation, it should be conveyed to the examiner in the next response, distinctly pointing out where it is shown in the specification, or how it could be inferred from the drawings.

While applicant has added an additional limitation of the rotation of the end effector, the examiner asserts that the primary reference of Green anticipates this limitation, Moreover if the end effector is rotated around the longitudinal axis of the tool, is the end effector longitudinal axis still coplanar with the longitudinal axis of the tool during articulation?

This action is non-final.

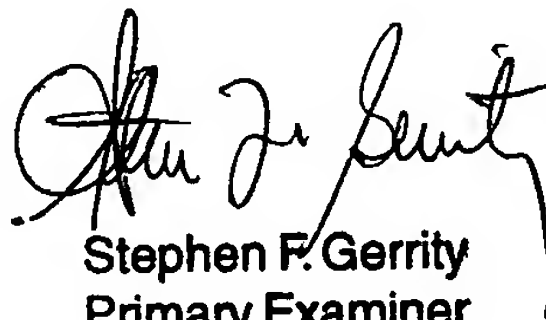
Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Durand whose telephone number is 571-272-4459. The examiner can normally be reached on 0730-1800, Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rinaldi I. Rada can be reached on 571-272-4467. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Durand
November 23, 2005


Stephen F. Gerrity
Primary Examiner